# Light/Attack Helicopter Technology Needs

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# Technology Focus

| | |
|---|---|
| Performance<br>Capability<br>Survivability | Weight<br>Space<br>Power<br>Cost |

# Performance Needs

**Materials**

Weight

Strength & durability

**Propulsion**

Weight

Efficiency

Reliability / dura

**Forward operations**

**Austere support environment**

**High Op tempo & rapid turns**

**Operational “Robustness”**

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# Capability Needs

PGMs

Sensors

Munitions

Interoperability

# Capability Needs

**PGMs**

Weight

Carry Density

Lethality

Range

Target-Shoot-Forget

**Munitions**

**Interoperability**

# Capability Needs

PGMs

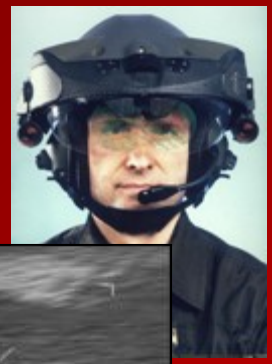
Munitions

**Sensor**

Space-Weight-Power

Sensor Correlation & Fusion

Range - Resolution



Interoperability

# Capability Needs

PGMs

S

**Munitions**

IM

Programmable Multi-Function Warheads

Interoperability

# Survivability

**Passive**

- Signature Reduction
- IR Suppression & Reduction

**Active**

- IRCM
- Threat Warning
  - Laser
  - Radar
  - Missile
- MCM

# H-1 Upgrades
## Incremental Improvement Roadmap

| FY05 | FY06 | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Deliveries**
**UH-1Y/AH-1Z**

| LOT I | LOT II | LOT III | LOT IV | LOT V | LOT VI | LOT VII | LOT VIII | LOT IX | LOT X | LOT XI |
|---|---|---|---|---|---|---|---|---|---|---|
| 6/3 | 4/3 | 9/5 | 14/9 | 14/9 | 14/10 | 14/30 | 14/30 | 11/31 | 0/38 | 0/12 |

### Block 1 — Funded

| | |
|---|---|
| HWx Tiedowns | Jack Point Beef-up |
| JMPS (SW) | Joint ComMsl (SW) |

### Block 2 — POM 06

| | |
|---|---|
| TSS Enhancements | IRCM ALQ-144 |
| GPS NAVWAR AJ | BriteStar |
| Joint Common Msl | APKWS/Smart Pod |
| JTRS/RSL-16/JVMF | GPWS |
| CXP/Mode S IFF | ECMSU |
| CNS/ATM, R-Nav | |

### Block 3 — POM 08

| | |
|---|---|
| HMD Tech Refresh | AIM-9X |
| CXP Mode 5 | SAASM-M-Code |

### Block 4 — POM 10

| | |
|---|---|
| Z-401C | ASE (EW) |

### Block 5 — POM 12

TBD

PMA-276
PMA-242
PMA-209

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# H-1 UPGRADES PROGRAM OVERVIEW

- **Upgrades AH-1W & UH-1N**
  - 100 UH-1Ys & 180 AH-1Zs
  - 4-bladed rotor system
  - 10,000 hour airframes
  - Integrated glass cockpits
- **Dramatic performance improvem**
  - Increased range, payload, speed
  - Increased ballistic tolerance
  - Increased crash survivability
- **84% identical major components**
  - Composite blades
  - Crashworthy seats
  - Hydraulic components
  - Fuel system components
  - Integrated avionics & software
  - T700-GE-401/C engines
  - New gearboxes

**AH-1Z**
40% New
60% Re-Used/Mod

**UH-1Y**
82% New
18% Re-Used/Mod